IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 1.   (original) A method for measuring residual chromatic dispersion in an optical

2 transmission system, the method comprising the steps of:

3   introducing a predetermined amount of chromatic dispersion at the receive end of

4 the system;

5   measuring a bit error rate for the system corresponding to the predetermined

6 amount of chromatic dispersion;

7   iterating the introducing and measuring steps until the bit error rate is a minimum

8 over all measured bit error rates;

9   wherein the residual chromatic dispersion in the optical transmission system is

10 represented by a complement of the predetermined amount of chromatic dispersion at

11 which the minimum bit error rate is achieved.

1 2. (original) The method as defined in claim 1 wherein step of iterating is responsive to

2 the bit error rate in the measuring step and includes selecting a new predetermined

3 amount of chromatic dispersion for the introducing step.

1 3. (original) The method as defined in claim 2 wherein the step of selecting further

2 includes controlling selection of the predetermined amount of chromatic dispersion in a

3 manner to produce a minimum bit error rate.

1 4. (original) The method as defined in claim 1 further including the step of compensating

2 at least some portion of the residual chromatic dispersion in the optical transmission

3 system by selecting a compensating amount from a chromatic dispersion range including

4   0 ps/nm through and including the predetermined amount of chromatic dispersion at

5   which the minimum bit error rate was achieved.

1   5. (original) The method as defined in claim 4 wherein step of iterating is responsive to

2   the bit error rate in the measuring step and includes selecting a new predetermined

3   amount of chromatic dispersion for the introducing step.

1   6. (original) The method as defined in claim 5 wherein the step of selecting further

2   includes controlling selection of the predetermined amount of chromatic dispersion in a

3   manner to produce a minimum bit error rate.

1   7. (original) Apparatus for measuring residual chromatic dispersion in an optical

2   transmission system, the apparatus comprising:

3   a dispersion compensator for introducing a predetermined amount of chromatic

4   dispersion at the receive end of the system;

5   a bit error rate test element for measuring a bit error rate for the system

6   corresponding to the predetermined amount of chromatic dispersion;

7   a control element coupled to said compensator and said test element for adjusting

8   said compensator to a new predetermined amount of chromatic dispersion in order to

9   reduce the bit error rate for the system;

10   wherein at least a portion of the residual chromatic dispersion in the optical

11   transmission system is represented by a complement of the predetermined amount of

12   chromatic dispersion at which the reduced bit error rate was achieved.

1   8. (original) The apparatus as defined in claim 7 wherein the control element adjusts the

2   compensator to a new predetermined amount of chromatic dispersion in order to

3   minimize the bit error rate for the system, the residual chromatic dispersion in the optical

4   transmission system being represented by a complement of the predetermined amount of

5   chromatic dispersion at which a minimum bit error rate is achieved.

1   9. (original) The apparatus as defined in claim 8 wherein the control element adjusts the

2   dispersion compensator to a compensating amount of chromatic dispersion selected from

3   a chromatic dispersion range including 0 ps/nm through and including the predetermined

4   amount of chromatic dispersion at which the minimum bit error rate was achieved.

1   10. (new) Apparatus for measuring residual chromatic dispersion at an intermediate

2   location in an optical transmission system, the apparatus comprising:

3   a dispersion compensator for introducing a predetermined amount of chromatic

4   dispersion to an optical signal from the intermediate location;

5   an optical receiver for receiving the optical signal comprising the predetermined

6   amount of chromatic dispersion;

7   a bit error rate test element for receiving at least a portion of a signal output from

8   the optical receiver and measuring a bit error rate at the intermediate location for the

9   system corresponding to the predetermined amount of chromatic dispersion;

10   a control element coupled to the compensator and the test element for iteratively

11   adjusting the compensator to a new predetermined amount of chromatic dispersion until

12   the bit error rate test element measures a minimum bit error rate;

13   wherein the residual chromatic dispersion at the intermediate location in the

14   optical transmission system is represented by a complement of the predetermined amount

15   of chromatic dispersion at which the minimum bit error rate is achieved.

1   11. (new) A method for measuring residual chromatic dispersion at an intermediate

2   location in an optical transmission system, the method comprising:

3   introducing a predetermined amount of chromatic dispersion to an optical signal

4   from the intermediate location using a dispersion compensator;

5   directing the optical signal comprising the predetermined amount of chromatic

6   dispersion to an optical receiver;

7   directing at least a portion of a signal output from the optical receiver to a bit error

8   rate test element;

9   measuring a bit error rate corresponding to the predetermined amount of

10   chromatic dispersion using the bit error rate test element;

11   iteratively adjusting the compensator to introduce a new predetermined amount of

12   chromatic dispersion and measuring the bit error rate until a minimum bit error rate is

13   achieved;

14   wherein the residual chromatic dispersion at the intermediate location in the

15   optical transmission system is represented by a complement of the predetermined amount

16   of chromatic dispersion at which the minimum bit error rate is achieved.